BIOLOGICAL EVALUATION

COOPERATIVE GYPSY MOTH PROJECT
FOR
INDIANA
2011

Gypsy moth is moving into northern Indiana from the infestations in Michigan and Ohio. Its movement is by natural spread and short distance transport by human activities. To detect the introduction of this pest, the State of Indiana has surveyed since 1972. From 1988 to 1998 the survey used a one-mile grid in the northern third of Indiana and a two-mile grid in the remainder of the state. In 1999, Indiana adopted the Slow-The-Spread (STS) survey protocol developed by the USDA Forest Service. Traps are set in detection (2K or 3K) and delimit (250M, 500M or 1K) grids across the state. The 2010 survey set 10,122 detection traps and 3,591 delimit traps, for a total of 13,713 traps set across the state. Fourteen counties were not trapped in 2010, mostly for economic reasons, but also because of negative trap catches in previous years.

The STS analysis of the 2010 trapping data in Indiana identified potential problem areas (PPA's) at 95 locations in Indiana. The analysis identified higher or equivalent moth catches in delimiting survey grids placed at each site compared to detections and delimits in prior years and recommended action in these areas. In addition to the data from the STS analysis, field survey by Indiana DNR staff detected multiple life stages in some PPA's. Indiana DNR and USDA, Forest Service staff reviewed the analysis and life stage data to define which PPA's have a very low population or low population and made a recommendation in some areas for treatment using mating disruption or Btk. This information, along with locations of gypsy moth habitat within those PPA's, was then used to define where treatment boundaries would be designated for those areas. In several areas identified by the analysis, the decision to delimit the area was chosen due to a lack of multiple life stages found and/or lack of habitat. The 17 proposed treatment sites in 11 counties are based on the trapping surveys, STS analysis, egg mass detections and available habitat.

Table 1 & Figure 1 show in the 11 northern counties with proposed treatment sites, the mean number of gypsy moths caught in detection traps increased in 10 counties and lowered only slightly in the remaining county in 2010.

Map 1 shows various moth lines and several potential problem areas across northern Indiana based on STS analysis of 2010 data.

Map 2 and 3 show the number of gypsy moths detected in each county for 2010 and 2009, respectively.

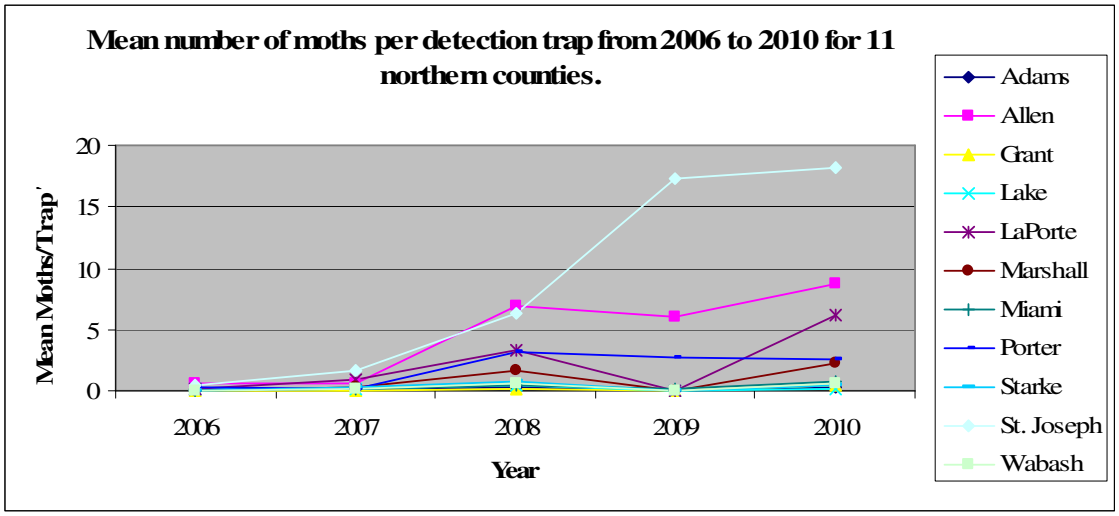
Map 4 shows the 10-moth line from 2006-2010. This analysis places the STS action area below the 10-moth line.

The site and moth trapping data can be viewed at the STS website - http://da.ento.vt.edu/Region1/d2010/tabdec.html

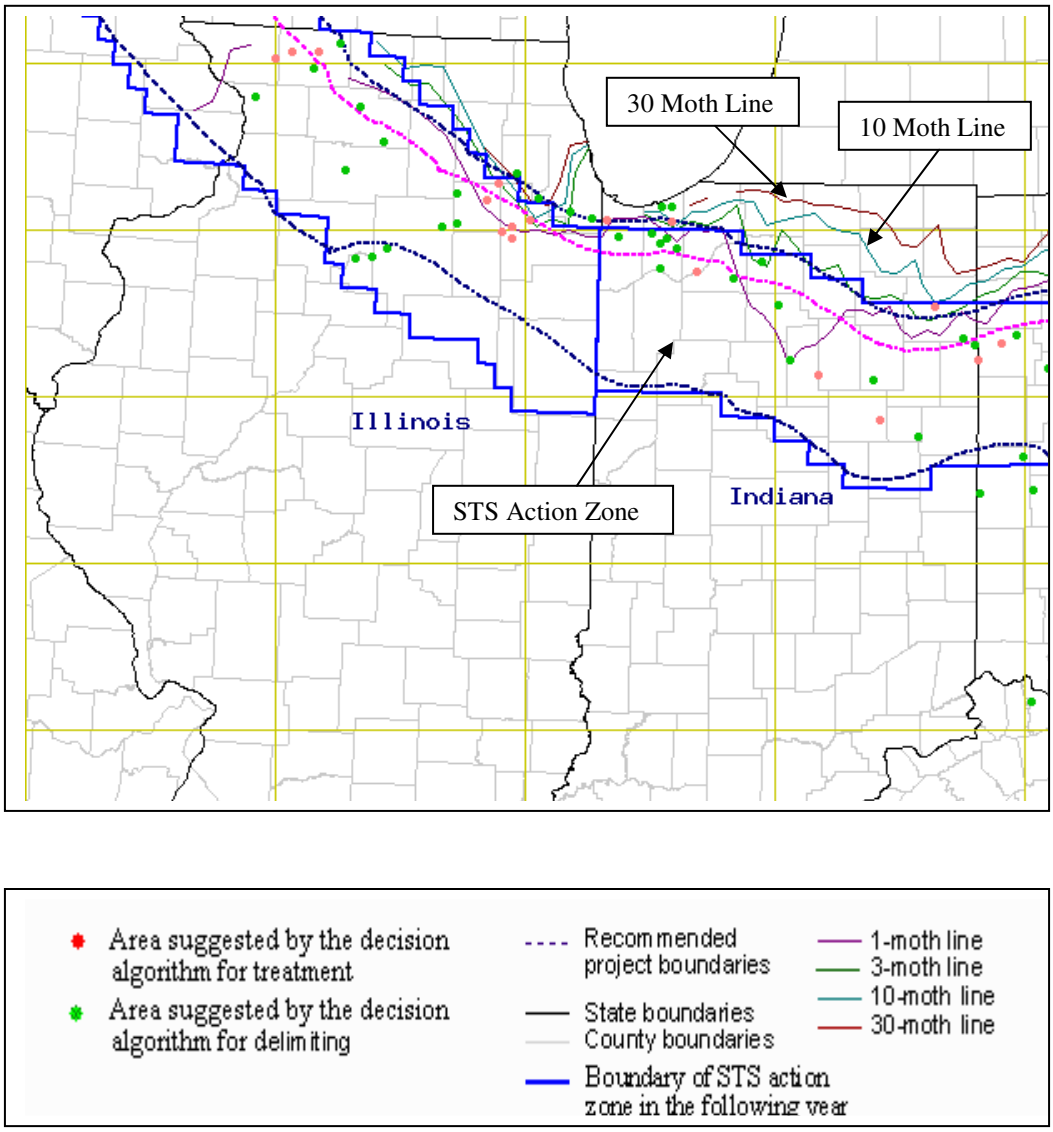
Table 1. Mean number of gypsy moths per detection trap (milk carton and delta) in the proposed counties for 2006 to 2010.

County	2006	2007	2008	2009	2010
Adams	0.01	0.19	0.29	0.00	0.34
Allen	0.60	0.66	6.97	6.00	8.67
Grant	0.01	0.07	0.20	0.00	0.44
Lake	0.11	0.21	0.52	0.00	0.17
LaPorte	0.20	0.97	3.34	0.00	6.23
Marshall	0.02	0.27	1.62	0.00	2.23
Miami	0.00	0.11	0.40	0.17	0.71
Porter	0.23	0.17	3.09	2.66	2.63
Starke	0.02	0.27	0.82	0.00	0.50
St. Joseph	0.42	1.64	6.29	17.34	18.26
Wabash	0.02	0.13	0.64	0.00	0.55

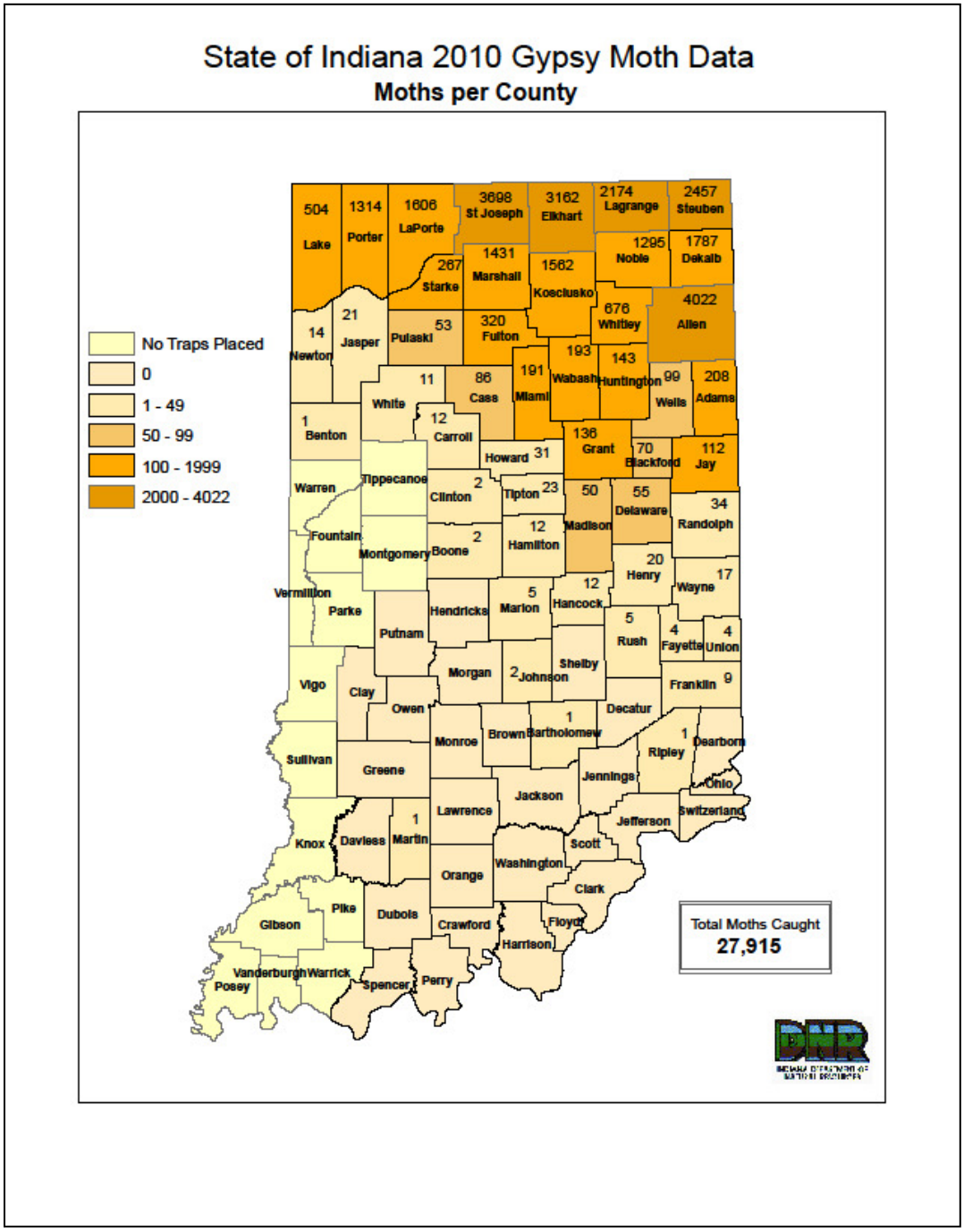
Figure 1. Mean number of gypsy moths per detection trap from 2006 to 2010 for 11 northern counties.



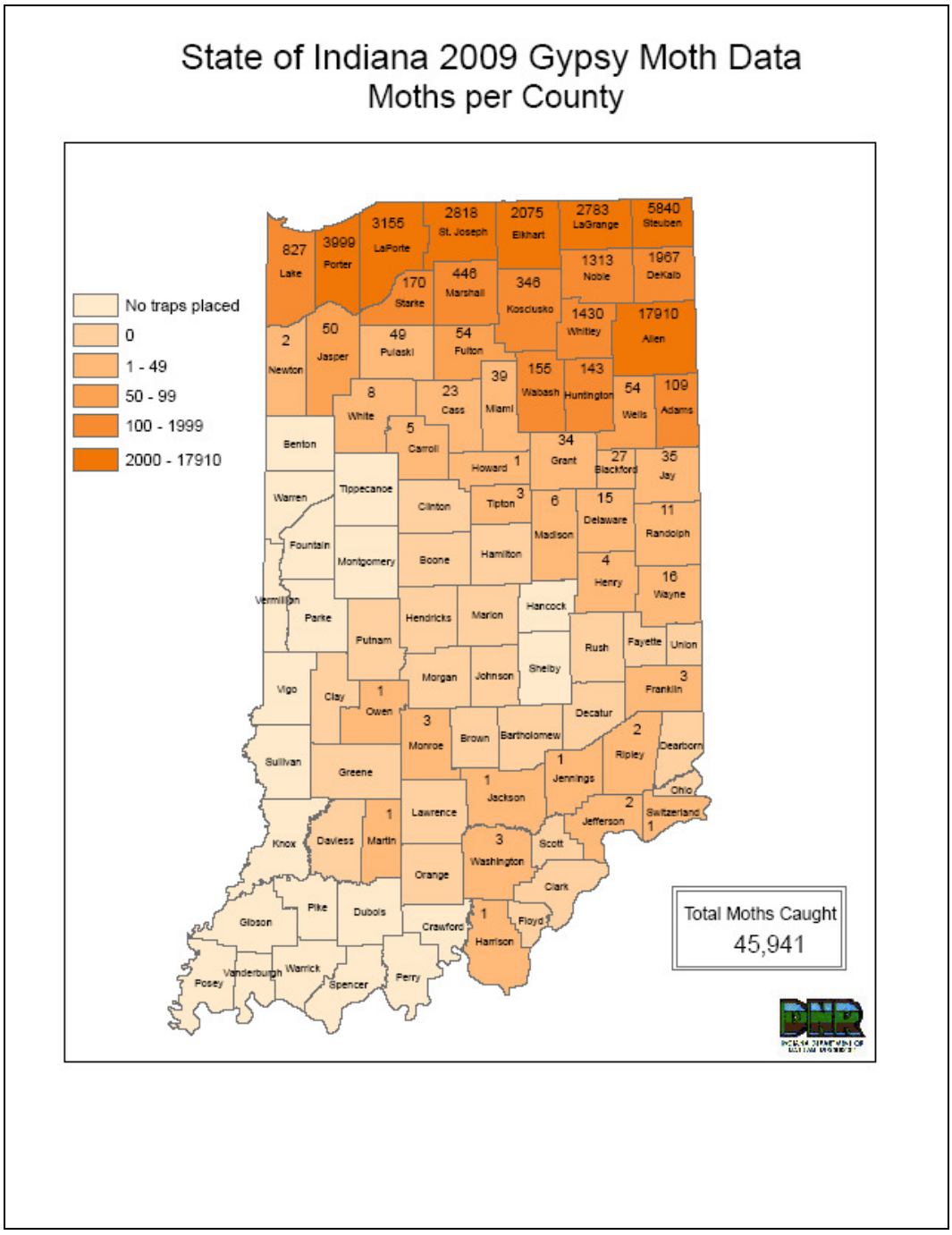
Map 1. Results of the 2010 Gypsy Moth Slow-The-Spread Analysis showing moth lines and several potential problem areas for northern Illinois, northern Indiana and northwestern Ohio (red dots indicate suggested treatments and green dots indicate suggested delimit survey as determined by the analysis of the 2010 trapping data).



Map 2. Male moth catches by county for 2010.



Map 3. Male moth catches by county for 2009.



Map 4. The 10-moth line of Gypsy Moth in Indiana from 2006 to 2010.